

Three meetings of the members of the Provo River Distribution System Board were held during 1960 on Jan. 25, Jan 26, and Dec. 19.

At the Jan 25 meeting the Articles of Association as drafted by the State Engineer's Office were read, approved and ratified, by the Board. Copy of said articles appear on pages V to VII of this annual report.

At the Jan. 26 meeting Mr. Niels Anderson was retained as Chairman of the Board for the ensuing year, although no mention is made in the minutes. The 1960 budget in the amount of \$11,617 was approved and the State Engineer was empowered to assess and collect assessments on the same basis as previous year. Wallace R. Wayman and Ike Baum were retained and elected to Provo River Water Commissioner and Deputy for the coming year by an unanimous vote of the Board.

At the Dec. 19 meeting the Board went on record as approving the recommendations of the Commissioner and his Deputy for instillation of control and measuring devices as rapidly as may be suitable. Also, that the State Engineer be notified of this action and that he be requested to take action as he deems lawful proper and expedient to enforce such instillation. See exhibit #1 showing instillations recommended. The Board approved the discontinuing of well level and certain off stream reading by the Deputy.

Computed Natural flow of Provo River provided 100% of Class "A" demands of decreed Rights in Utah Valley to May. 22; 80% to June 2; 100% to June 16; 80% to June 23; 70% to July 11; 60% to Aug. 9; 55% to Aug. 16; 50% to Sept. 9; 40% to Oct. 8; 50% to Oct. 14; 100% balance of season. Wasatch Division provided 100% to First Class Rights to June 28; 85% to July 1; 55% during July; 36% during Aug. and Sept. The total Natural Flow (185,167 Acre Feet) for the water year Nov.1, 1959 to Oct. 31, 1960 equaled 95.5% of that for the previous year. The Irrigation Season Natural Flow, April 1 to Oct. 31, 1960 equaled 97% of previous year for the same period. Both years were low water years about 60% of 1958

With the exception of Trial, Washington, Wall, Lost and Big Elk all storage lakes at head of the River filled completely. In that Washington Lake did not fill, 38 acre feet storage in Crystal Lake on a tributary of Washington Lake was distributed or allocated to Washington Lake owners or rights. During the water year owners of storage in Trial, Washington and Lost Lakes were directed to make certain repairs to outlet and free board facilities by the State Engineers Office. 9,934 acre feet was the total 1960 water year storage from all lakes.

Duchesne Tunnel diversion accounted for 31,989 acre feet of Deer Creek storage, after deduction of 4% conveyance losses. Weber Provo Canal delivered 35,584 acre feet to Provo River. Off this amount 29,583 acre feet was credited to Deer Creek Storage after deduction of conveyance losses; 5015 of which was Echo Storage. The difference of 6001 acre feet was either conveyance loss to Deer Creek Res. or #9,580 water credited to N.P. The 5,366.34 foot water elevation of Deer Creek Res. reached Oct. 7, 1960 with 55,700 acre feet storage marks the lowest level reached since the Res. was first built and filled. This was 47 acre feet lower than reached in 1959 on Oct. 16.

A conveyance loss of 4% was began and charged on Ontario Tunnel water for 1960 season from where it enters Provo River to Deer Creek Res. as provided in the decree. This has not been done in previous years.

Four temporary change of point of diversion place or purpose of use applications were approved and places in operation in connection with water used for municipal purposes from Provo River drainage during 1960. Three were for Provo City and one for Orem City. They are as follows:

App#	Date of App.	From	To	Am't	Period	For
60-1	Jan 28-60	UP&L Flume	So. Fk. Spr.	10cfs	Jan 1 to Apr 15	Provo City
	Mar 14-60	Provo Irr.	PB&W Union C	10cfs	Apr 1 to Nov 1	Provo City
60-15	Oct 5-60	UP&L Flume	So. Fk. Spr.	10cfs	Oct 15 to Apr 15	" "
60-7	Apr 13-60	UP&L Flume	S.L. Aqued	7cfs	Apr. 15 to April 15	PRNU Co. & Orem City

Provo River Water Commissioner has imposed no restriction to the use of winter N.F. Water for municipal purposes, as the decree provides for such winter use of N. F. Water in question and no abandonment has ever been shown.

Deer Creek Res. stored and transferred 25,384 acre feet of Utah Power and Light Co. N. F. Power Water Balance of Provo River water accumulated between Nov. 1, 1959 and June 15, 1960 to association balance. Authorization was given by UP&L Co. in their letter of April 5, 1960 to the association. This procedure is not in accordance with the original tertiary storage contract between UP&L Co. and the association, however no objections were imposed or made by Utah Lake interests on Jan. 31, when the first 4000 acre feet was transferred and reported. This procedure of transfers to the association of Power Water Balance will continue when authorized, unless I am directed to do otherwise by higher authority.

Due to the water shortage of 1960 resulting in cutting class "A" Utah Valley Water to 40% of decree, regulation on South Fork, Utah County and Deer Creek, Wasatch County became necessary. Users affected on South Fork were Conrad Brothers, Sterling Ercanbrack and David Long, necessitating putting them on a turn system. The procedure followed is shown in my letter of July 26, 1960 to State Engineer, David Long's claim to the use of all the waters of Bunnells Fork (5 to 6 cfs) on 10 acres of land, resulted through the effort of the Provo River Water Users's Association in a Temporary Order from the Judge of Fourth Judicial District Court dated Sept. 14, 1960. It is hoped the court will expedite this case to a conclusion, for to make distribution under the present Court Order for another irrigation season would be very difficult and unsatisfactory.

Regulation was necessary on Deer Creek stream, Wasatch County as the Hoover interests only hold Secondary Rights of the Association for lands leased. The association should furnish them with storage on a replacement basis if their lands are to be successfully operated in water short years.

1960 and 1961 distribution of Provo River has and will result in considerable extra duties for the commissioner, namely: distribution of South Fork and Deer Creek streams, including temporary changes of municipal water in computations, extra alta-Orem City recording station of storage use, checking and recording of winter uses on all Utah Valley users by order of State Engineer's Office, supervising installation of control and measuring facilities.

Reference is made to the first three paragraphs contained in my 1959 annual report regarding river losses. In my judgement these same conditions obtains or exists, however no recommendations will be made at this time for correction of these discrepancies until more data can be compiled.

As it now stands the tentative 4% loss figure shall obtain (see paragraph 117 of decree) until a more realistic figure can be determined by the commissioner and approved by the court.

The practice over the years has been for the Deputy to deduct the 4% on all foreign and head of the River Storage in computing Natural Flow for the Wasatch division of the River which falls above Deer Creek Res. There is some apparent evidence in the language of the decree that this is the intent. Using these practices together with delivering 100% of 3/4 of all storage water released to users over a 10 mile river reach as set up in the computations method, makes Utah Valley N.F. users assume not only all losses on N.F. delivered from below deer Creek Res., but also, all losses on storage water released and delivered to users over a 10 mile river reach. At 2% it would equal 1,135 acre feet on 1960 storage delivered to the Mardock Canal alone.

During 1960 Irrigation season some attempts were made to measure N.F. coming into the reservoir and River below and to cooperate with the U.S. G.S. in comparing this with average computed N.F. determined for Utah Valley users. Such a method it was found would be very difficult and expensive because of daily fluctuations in return flow N.F. water entering the reservoir from streams above as well as entering the reservoir under ground. An attempt to approach and effect a determination of unaccounted for river losses by comparing computed reservoir amount with actual reservoir amount for any given date or time was also found unrealistic. Computed amount is theoretically the same as actual reservoir amount as shown on sheet 4 showing "End of the Month Storage Summary of Deer Creek Res." The small differences shown were errors in computations not found.

Any loss % or loss figure chosen becomes a function of the Deer Creek Res. additions and balances, hence no theoretical differences prevails, between computed and actual reservoir amount when no errors in computations exists.

The most realistic approach to a determination of Provo River losses is perhaps a comparison with other river known losses of similar characteristics where no storage complication exists, also comparison with reaches of existing canals in this vicinity having some similar conditions. To further pursue an extended study of Provo River Losses, I feel the decision should rest with the Board and the State Engineer.

The following:-- Taylor, Finlayson, Johnson, Geneva Park, Lion Park, Brown, Griffiths, Rieske's Orchard, Tanner:--diversions from Lake Bottoms Canal all supply water to the unincorporated water users of Spring Creek. As indicated in the 1959 report distribution to these users has for years came under the duties of the water commissioner.

The acreage and water turns of these diversions all have been checked Put in order and consolidated. It is my recommendation that distribution to these diversions be turned over to Lake Bottoms Canal and that they make assessment in accordance with the water turn tickets furnished. The Lake Bottoms Canal officials have indicated their willingness to accept this responsibility. Should the Canal Company need supervision in affecting this transfer it will be gladly given.

On Spring Creek proper, which runs into Lake Bottoms Canal there are some five diversions which could also be taken over by Lake Bottoms Canal Company for distribution and assessment in accordance with the turn tickets which can be furnished. If this transfer of duty can not be effected it is my recommendation that the minimum individual assessment be held at \$3.00 each.

In making distribution to Utah Valley users, the most disturbing single condition or violation has been repeated tampering with the River check boards at the West Union, Upper East Union, and City Creek Joint Dam. When N.F. is low and any of these boards are tampered with or removed any user having a turn under the canals mentioned loses his turn until the boards are replaced and the water put back in the canals. There has never been any restriction for fishing from the concrete apron of this dam and it is the opinion of the writer that any one tampering with the boards does so under the guise of a fisherman and not as a fisherman as such.

Attempts have been made without success to get the local Fish and Game authorities to post this dam apron against fishing from. It is recommended that this request be carried to a higher authority level and that the Board request the State Engineer to get the State Fish and Game officials to affect this posting. There are two places or reaches of the river now posted, namely; immediately below Deer Creek Dam and UP&L Co. spillway of their steam plant. The several canals should jointly post a non-trespass notice on this dam. This should aid in apprehending anyone removing the boards.

Acres Feet Storage Summary with Deer Creek Project Use Year Ending Oct 31, 1960

Date	Report No	NF Shingle Creek	Abb 1903	Duch Tunnel	Weber P.C.	Evap Loss	Feble cement	SL agued	Provo City	Orem City	Geneva Steel	Murd Canal	Provo Bench	West Union	City Creek	Balances
Nov 15 1959	21			611	1236	60		450	171							Reservoir 56900
" 30	22			459	709	60		468	179							- {Class "H" 352
Dec 15	23			328	560	22		303	177							- {Poy W 2.
" 31	24			272	539	24		320	178							Assoc. Bal 56337
1960																Additions +68527
Jan 15	1			240	516	23		204	163							Deliveries -91279
" 31	2			256	460	24		128	0							Evap. -6239
Feb 15	3			403	508	33		125	0							Assoc Bal 27346
" 29	4			127	415	32		112	0							Transfers N.F. Power 1
Mar 15	5	27		266	983	120		131	0							Jan 15 +49.
" 31	6			944	1134	133		279	0							June 30 +20349
Apr 15	7	129		1089	2399	263		317	0							Class H + Power Bal Oct 31-6 +3174
" 30	8		280	1407	4136	285		453	0							Computed Re Bal 55854
May 15	9	1783	280	4098	5199	422		400	0							Res Bal Oct 55849
" 31	10	400	280	7540	5660	493		701	267	8						difference 5
June 15	11	720	280	10088	5061	616		1201	378	111						
" 30	12		280	2822	0	609		1408	388	110			80			
July 15	13		280	1048	0	598		1930	441	110			300	18	6	
" 31	14		299	149	0	590		3294	479	141			380	72	32	
Aug 15	15		280	0	0	471		2840	465	149			590	10	30	
" 31	16		299	0	0	457		2288	435	148			580		32	
Sept 15	17		280	0	0	303		2039	311	36			120			
" 30	18		280	0	0	291		1951	287	50						
Oct 15	19		280	74	0	150		1206	285	0						
" 31	20		298	368	68	160		322	27	0			0			
Totals		3059 182	3714 31989	*29583	6299	78 22870	4631 982	3485*56983	2050 100	100						

← Water year additions 68527 →

← Water year delivery to users 91279 →
These two figures includes Echo Storage of 5015 Ac. Ft. delivered to DCR for distribution

Here Foot End of Month Storage Summary NCR
 showing balances, additions, transfers, uses and storage.
 Year Ending Oct. 31, 1960

Dates	Class # Bal	Power W/ Bal	Prov'd W/LC Bal	DC Res Addition	Transfers	DC Res Uses	Assoc Bal	Computed Res Amt	Res Amount	Difference
Oct 31 1959	352	211					56337	✓ 56900		
Nov 30	352	2624		3015		1388	54964	✓ 60940		
Dec 31	352	4147		1699		1022	58637	63140	63138	2
Jan 31 1960	352	512		1472	4985	540	64554	65220	65418	2
Feb 29	352	1785		1453		302	65905	✓ 17849		
Mar 31	352	10934		2754		673	67796	✓ 97082		
Apr 30	-74	17595	308	9440		2512	74723	90550	92552	1
May 31	988	19849	197	25378		6922	93118	114154	114152	2
June 30	-111	20349	0	19913		16827	93902	✓ 246140		
July 31	-1391	0	0	1776	20349	24961	93066	✓ 91675		
Aug 31	-1536	0	0	579		22354	71290	69755	69754	1
Sept 30	371	0	0	560		16301	55549	✓ 55920		
Oct 31	1612	1562	0	1088		3960	52675	55854	55849	5